TROUT AND SALMON MIGRATORY ROUTES IN SOUTHERN ONTARIO

This map shows former, present and potential migration routes of seven kinds of trout and salmon. These fish and their migratory routes are important in the restoration of the Great Lakes fisheries.

ATLANTIC SALMON

Scientific Name—*Salmo salar Linnaeus*

History — Early settlers encountered a Lake Ontario Atlantic salmon population that seemed inexhaustible. Fall spawning runs numbering in thousands of salmon ascended most tributary streams. Economic importance is shown in the Gazette of York on May 16, 1798:

"To be sold by public auction on Monday, the 2nd of July, next, at John McDougall's Hotel in the Town of York, a valuable farm situated on Yonge Street about twelve miles from York on which is a log house and seven or eight acres well improved. It affords an excellent salmon fishery, large enough to support several families."

Hundreds of mill dams were built blocking streams. Land clearing and cultivation resulted in reduced flows, warm muddy water, and loss of spawning grounds. Waste from mills and communities went directly into streams.

Serious declines in Don River spawning runs were noted by 1829 and in the Humber by 1845. In 1856 the Canadian Superintendent of Fisheries petitioned for the removal of dams or provision of fishways on the Credit and other rivers near Toronto. Some measures were taken to protect spawning fish.

Samuel Wilmot started the first Canadian fish hatchery at Newcastle in 1866 raising salmon fry to stock former spawning streams. Until 1878 stocking appeared successful in nearly every stream between Brighton and Hamilton. However, by 1880 there were no runs west of Toronto. Duffin Creek had 150 spawners in 1877. Stocking was abandoned in 1883 for lack of spawners. Commercial catches of over 200 salmon a year were taken near Newcastle until 1878. Among the last records are specimens from the Niagara River and near Winona (1881), the Oswego River, New York, (1890), the Wilmot Creek (1896), and finally one netted off Scarborough beach in April, 1898.

Despite many restoration attempts, the only known self-sustaining Ontario population is the result of introductions starting in 1933 at Trout Lake (near North Bay).

Distribution — Formerly Lake Ontario and tributaries

Spawn Migration — Fall

In Stream —Two-eight years

Sexual Maturity—Five or six years (Trout Lake Data)

Weight—Six and one half pounds common

BROWN TROUT

Scientific Name—*Salmo trutta Linnaeus*

History — Brown trout are native to the streams of Western Europe and the British Isles. In 1913 fingerlings were planted in the Speed River and in Norfolk and Perth Counties. It may have been introduced into Ontario prior to 1913 by private plantings: Plantings was halted in 1961 because self-sustaining populations were established in many streams and the species competed with native brook trout.

Distribution — Substantial populations have been established in Lake Superior. Some of these may spawn in the lake. Known Georgian Bay runs include the Coldwater, Nottawasaga, Pottawatomi, and the Sydenham rivers and Telfer Creek. From Lake Huron runs are are known in Willow Creek and the Saugeen and Bayfield rivers. The Lake Erie runs are the Big, Potters, Fishers, and Young creeks. Brown trout have been taken in Lake Ontario, and the Royal Ontario Museum has specimens from Wilmot, Duffin, Jones (Leeds County) and Twelvemile (Lincoln County) creeks suggesting Lake Ontario spawning populations.

Migration — October and November

In Stream — Several years

Sexual Maturity — Three to four years

Weight—Six to seven pounds common for lake fish

RAINBOW TROUT

Scientific Name — *Salmo gairdneri Richardson*

History—Rainbow trout are not native to Ontario. Private plantings between 1883 and the early 1900's established the species in some Georgian Bay tributaries. The 1904 Lake Huron specimens taken in Canadian waters were probably from stockings of United States tributaries that started in 1876 and 1878 (Michigan and New York). The Canadian Government stocked this species from 1912 to 1922. Provincial Government plantings have continued with some interruption. Since 1970, there has been intensive stockings of the Credit River, the Humber River, and the Saugeen River. Rainbow are presently the prime Canadian sport fish species of the Great Lakes. A population was established in the Nottawasaga River before 1910. Naturalized populations date from 1915 for Lake Huron, from 1921 for Lake Erie, and from the late 1950s for Lake Ontario.

Distribution — Twenty-six tributaries to the southern Great Lakes have major runs of rainbow trout. Georgian Bay has ten, the Pottawatomi, Sydenham, Beaver, Pretty, Nottawasaga and Sturgeon rivers and Telfer, Indian Brook and Indian and Silver creeks. Lake Erie has five, Young Fishers, Big, Big Otter and Catfish creeks. Lake Huron has the Sauble, Bayfield, Lucknow, and Saugeen rivers and Spring and Willow creeks. Lake Ontario has the Shelter Valley, Wilmot and Bronte creeks, and the Ganaraska River. Forty southern Great Lakes tributaries are known to have smaller runs. Lake Simcoe had a population between 1918 and 1963.

Migration — Both spring and fall runs occur for the Saugeen, April to June and August to December) Telfer Creek also has two runs, but between November and April .Whereas most rainbow trout are spring spawners, Telfer Creek also has spawning between December and February.

In Stream — Although some rainbow spend their entire life in one stream or lake, most young rainbow spend from a few months to four years in the spawning stream before moving to the lake.

Sexual Maturity—In two or three years in most cases.

Weight—Lake fish average 3-5 pounds with frequent 15 pounders. A 19.5 pound rainbow was taken from Georgian Bay in 1971.

SPLAKE

Scientific Name—Splake or "wendigo" are hybrids of brook trout and lake trout (*Salvelinus fontinalis x Salvelinus namaycush*).

History — This hybrid was known as far back as 1880. However, Ontario interest dates from the 1950's when it was chosen as a possible replacement for lake trout populations decimated by the sea lamprey. Splake have been stocked in Lake Huron and Georgian Bay since 1954 and Lake Ontario since 1968.

Distribution — Small migratory runs have been recorded in Orchard Creek and the Sydenham and Bighead Rivers of Georgian Bay and in the Saugeen and Lucknow rivers of Lake Huron.

Migration—It is not believed that these are spawning runs. Splake typically spawn on rocky lake shoals in the late fall.

Sexual Maturity — Splake generally mature in three years.

Weight — A 16-pound specimen was taken from a northern Ontario lake in 1960.

COHO AND CHINOOK SALMONS

Coho and chinook are discussed together because of the difficulty in distinguishing between the two on the basis of general appearance.

Scientific Names—*Oncorhynchus kisutch* (Walbaum)—Coho salmon *Oncorhynchus tshawytscha* (Walbaum) —Chinook salmon

History — Lake Ontario plantings in 1878-82 and in the 1920s produced no permanent population. In 1967, Michigan began coho and chinook stockings which have had good survival and growth. In 1968, Ohio, Pennsylvania and New York began stocking Lake Erie tributaries. Since 1969, Ontario has experimentally planted coho in Bronte Creek and the Humber and Credit rivers. Chinook fingerlings were stocked in the Ganaraska River in 1971.

Distribution — Small runs are known in the Beaver, Bighead, Sydenham, Nottawasaga and Sturgeon rivers of Georgian Bay. A run of over 200 fish is known in the Saugeen River. Six other Huron tributaries, the Bayfield, Maitland, Lucknow, Penetangore and Sauble rivers and Willow Creek have runs. Lake Erie has runs in the Big Otter and Grand rivers and in Big, Potters, Fishers and Young creeks. Lake Ontario runs are in the Napanee, Salmon, Trent, Humber and Credit rivers and in the Milhaven, Shelter Valley, Graham, Wilmot, Duffin, and Bronte creeks. The run in the Credit is substantial in numbers.

Spawning — Both species are fall spawners. The run on the Saugeen occurs from September to mid November. These fish die after spawning.

In Stream — One year.

Sexual Maturity — Three years for coho and four for chinook.

Weight — 10 to 15 pound adults are common. Specimens up to 22 pounds have been recorded from the Great Lakes. Chinook reach a larger size than coho.

KOKANEE SALMON

Scientific Name — A freshwater variety of sockeye salmon.

— *Oncorhynchus nerka* (Walbaum)

History — Since 1964, Ontario has experimentally planted this species in tributaries and shoals of Georgian Bay, Lake Huron and Lake Ontario. It is not known if any self-sustaining populations exist in the Great Lakes; however, a small population is known from Boulter Lake, McClure Township. This population resulted from a plant of 250 adult fish in 1960.

Distribution — Significant runs have been known since 1966 in tributaries of Georgian Bay and Lake Huron. Observers of the 1966-69 runs have estimated maximum numbers as 5,000 Blue Jay Creek (67), 2,311 Manitou River, (67), 1,304 South Bay (69) 984 Gleason Brook (67), 724 Colpoys Creek (69) and 600 Mindemoya River(69).Small runs have been noted in the Sydenham, Bighead, Pottawatomi and Saugeen rivers and in Willow, Judges, Jenkins and Telfer creeks.

Spawning — September, Kokanee die after spawning.

In Stream — Fry at Blue Jay Creek were found moving out of the stream in April and May.

Sexual Maturity — Most apparently mature in their third year of life.

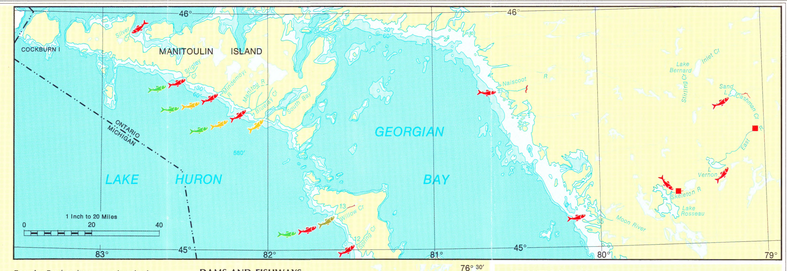
Weight — Up to a pound and a half. These are the smallest salmon.

SPAWNING GROUNDS

Migratory trout and salmon spawn on gravel beds generally found in mid reach and headwater riffles. Here, females dig nests or "redds" using their tails. Eggs and milt are deposited together and then covered with gravel. Soil erosion creates major problems for trout and salmon reproduction. Each year, a significant percentage of developing eggs are smothered by sediment. Many former spawning grounds in southern Ontario have been buried. Mapping spawning areas is an enormous and, yet, uncompleted job.

MIGRATORY ROUTES

To attract trout or salmon, a tributary stream must send a freshet into the lake when the fish are ready to spawn. These species can tolerate some pollution and turbidity, but high water temperatures (60°F) generally halt a spawning run. Within the length of the migratory routes lie both the spawning grounds and the nursery grounds for "parr". The amount of nursery grounds is generally considered to be more limiting to migratory trout and salmon numbers than the amount of spawning grounds. Parr, generally, spend one to three years in the stream before changing to silvery "smolts" and descending to the lake. In southern Ontario 131 Great Lakes tributaries (five Manitoulin Island streams not included), two Lake Simcoe tributaries and nine tributaries to other inland lakes have actual runs or potential for such runs. A stream is regarded as having potential if it is tributary to a large lake and has a substantial upstream area suitable for trout.



Georgian Bay has the greatest length of utilized routes, 693 miles, in 31 tributaries representing 57 per cent of potential. Four fishways have been built in this area. The Nottawasaga River with 411 miles open via three fishways makes up 59 per cent of all utilized routes. Another 530 miles of stream are potential routes. Existing and potential routes are blocked at 59 points by seven natural obstructions and 51 dams.

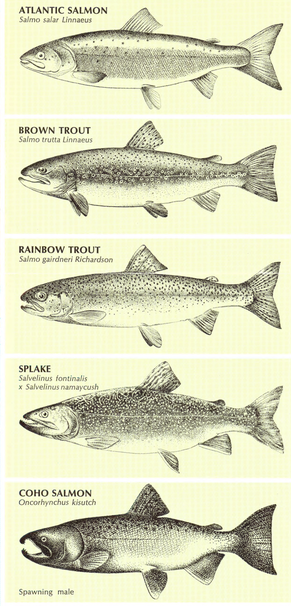
Lake Huron has 385 miles of utilized streams, or 29 per cent of total possible mileage. One fishway has been constructed at Denny's Dam on the Saugeen River. The Saugeen, Maitland, Bayfield and Penetangore rivers have 276 miles utilized or 72 per cent of the total utilized in the area. Ten dams and one natural barrier block all, but four, of 949 miles of potential routes.

Lake Ontario tributaries have only 269 miles or 15 per cent of their present potential used. The Humber River, Oakville Creek, Duffin Creek, Credit River and Gage Creek have 56 per cent of the presently usable mileage. Another 1,490 miles of possible routes are blocked by water pollution, 51 dams and two natural obstacles.

Lake Erie trout and salmon use 165 miles or 19 per cent of the potential mileage. Big Creek (with one fishway) and Big Otter Creek have 128 miles or 78 per cent of the utilized mileage. The 687 miles of potential routes are largely blocked by 19 dams.

DAMS AND FISHWAYS

Dams may prevent sea lamprey from spawning and protect native brook trout from competition from other trout; however, dams present the most serious obstacles to present and future spawning runs. Restoration of the Great Lakes fisheries is partly dependent upon opening many more miles of stream to trout and salmon. Fishways or fish ladders are generally a poor and expensive substitute for an open river. Fishway construction costs can run as high as $70,000 on a large dam. Each location presents an individual design problem. After building, modification of the fishway and stream are invariably required, and added operation and protective enforcement are needed during the run. Warmwater species do not utilize fishways. Only about one quarter of a brown trout spawning run ascends a fishway. Even some rainbow trout, particularly large females, cannot navigate such structures.



DATA ON SOUTHERN ONTARIO MIGRATORY ROUTES

Names in red indicate runs of over 200 fish

NAME	PRESENT ROUTES OPEN MILES	PRESENT ROUTES PARTLY BLOCKED MILES	POTENTIAL MILES	TOTAL MILES	□	◪	■	—
GEORGIAN BAY TRIBUTARIES								
1. Judges Creek	–	–	8.0	8.0	–	–	1	–
2. Colpoys Creek	1.0	–	2.2	3.0	–	–	–	1
3. Gleason Brook	.8	–	4.8	5.6	–	–	–	1
4. Indian Creek	1.0	–	13.6	14.6	–	–	–	1
5. Pottawatomi River	8.4	–	14.0	22.4	–	–	–	1
6. Sydenham River	4.0	–	40.0	44.0	1	–	–	1
7. Telfer (Bottrells) Cr.	14.0	–	–	14.0	–	–	–	1
8. Keefer Creek	2.0	–	8.4	10.4	–	–	–	1
9. Waterton Creek	7.2	–	9.6	16.8	–	–	1	–
10. Johnson Creek	7.2	–	–	7.2	–	–	–	–
11. Sucker Creek	–	–	14.0	14.0	–	–	–	–
12. ------	8.0	–	–	8.0	–	–	–	–
13. ------	.2	–	–	.2	–	–	–	–
14. Orchard Creek	3.2	–	–	3.2	–	–	–	–
15. Bighead River	82.0	–	20.4	102.4	–	–	10	–
16. East Mesford Creek	6.0	–	–	6.0	–	–	–	–
17. ------	5.6	–	–	5.6	–	–	–	–
18. Beaver River	.3	–	125.6	125.9	–	–	5	1
19. Indian Brook	8.4	–	–	8.4	–	–	–	–
20. ------	2.4	–	–	2.4	–	–	–	–
21. ------	–	–	2.4	2.4	–	–	–	–
22. Silver Creek	4.0	4.0	2.0	10.0	–	–	1	–
23. ------	–	–	5.6	5.6	–	–	–	–
24. ------	–	–	10.4	10.4	–	–	–	–
25. Pretty River	26.8	–	–	26.8	–	–	–	–
26. Batteaux River	2.4	–	17.6	20.0	–	–	1	–
27. ------	–	–	2.0	2.0	–	–	–	–
28. Nottawasaga River	410.6	–	179.7	590.3	3	–	22	–
29. ------	2.0	–	–	2.0	–	–	1	–
30. ------	1.6	–	–	1.6	–	–	–	–
31. Copelands Creek	.4	–	1.6	2.0	–	–	1	–
32. Hog Creek	1.2	–	10.4	11.6	–	–	1	–
33. Sturgeon River	.8	–	16.0	16.8	–	–	1	–
34. Coldwater River	29.0	16.1	10.6	55.7	–	1	5	–
35. Moon River	1.6	–	–	1.6	–	–	–	–
36. Naiscoot River	6.0	–	–	6.0	–	–	–	–
TOTAL	673	20	530	1,223	4	2	51	7
LAKE HURON TRIBUTARIES								
1. Ausable River	22.0	–	–	22.0	–	–	–	–
2. Bayfield River	50.0	–	48.0	98.0	–	1	–	–
3. ------	–	–	4.0	4.0	–	–	–	–
4. Maitland River	82.0	–	184.4	266.4	–	–	2	–
5. Lucknow River	.4	21.6	14.0	36.0	–	2	1	–
6. Eighteen Mile River	18.0	–	–	18.0	–	–	–	–
7. Penetangore River	41.2	–	–	41.2	–	–	–	–
8. Little Sauble River	17.2	–	–	17.2	–	–	–	–
9. Saugeen River	102.4	–	588.8	691.2	1	–	3	–
10. Stoney Creek	4.0	–	–	4.0	–	–	–	–
11. Sauble River	19.6	–	106.6	126.2	–	–	3	–
12. Spring Creek	4.8	–	–	4.8	–	–	–	–
13. Willow Creek	1.6	–	3.2	4.8	–	–	–	1
TOTAL	363	22	949	1,334	1	2	10	1

NAME	PRESENT ROUTES OPEN MILES	PRESENT ROUTES PARTLY BLOCKED MILES	POTENTIAL MILES	TOTAL MILES	□	◪	■	—
LAKE ONTARIO TRIBUTARIES								
1. Millhaven Creek	8.8	–	–	8.8	–	–	1	–
2. Wilton Creek	–	–	23.6	23.6	–	–	–	–
3. Napanee River	3.2	–	–	3.2	–	–	1	–
4. Selby Creek	–	–	15.1	15.1	–	–	–	–
5. Salmon River	1.5	–	33.6	35.1	–	–	1	–
6. Blessington River	–	–	12.0	12.0	–	–	–	–
7. Meyers Creek	–	–	6.0	6.0	–	–	–	–
8. Trent River	3.5	–	2.8	6.3	–	–	2	–
9. Smithfield Creek	–	–	6.6	6.6	–	–	1	–
10. Butler Creek	–	–	5.7	5.7	–	–	–	–
11. Salem Creek	1.3	–	3.0	4.3	–	–	1	–
12. Colborne River	9.8	–	2.9	12.7	–	–	1	–
13. Shelter Valley Creek	.1	12.0	8.6	20.7	–	1	1	–
14. Grafton Creek	–	–	3.2	3.2	–	–	1	–
15. Hortop-Prentice Creek	3.0	–	1.4	4.4	–	–	1	–
16. Livingstone Creek	–	–	5.6	5.6	–	–	–	–
17. Brookroad Creek	–	–	3.1	3.1	–	–	–	–
18. Cobourg Brook	–	–	27.7	27.7	–	–	2	–
19. ------	–	–	3.7	3.7	–	–	–	–
20. ------	–	–	1.9	1.9	–	–	–	–
21. Gage Creek	14.2	–	–	14.2	–	–	–	–
22. Ganaraska River	1.9	–	66.4	68.3	–	–	2	–
23. Port Britain Creek	6.1	–	4.4	10.5	–	–	1	–
24. ------	–	–	3.0	3.0	–	–	–	–
25. ------	–	–	3.5	3.5	–	–	–	–
26. ------	–	–	1.5	1.5	–	–	–	–
27. Graham Creek	6.0	–	17.3	23.3	–	–	1	–
28. ------	–	–	4.5	4.5	–	–	–	–
29. Wilmot Creek	10.4	–	16.7	27.1	–	–	1	–
30. Soper Creek	7.0	.9	7.4	15.3	1	–	–	–
31. Bowmanville Creek	2.3	–	13.3	15.6	–	–	1	·
32. Harmony Creek	–	–	28.8	28.8	–	–	1	·
33. Oshawa Creek	–	–	41.4	41.4	–	–	2	–
34. Pringle Creek	–	–	7.0	7.0	–	–	–	–
35. Lynde Creek	–	–	67.7	67.7	–	–	2	–
36. Duffin Creek	3.6	24.3	60.0	87.9	–	1	5	–
37. ------	–	–	2.8	2.8	–	–	–	–
38. ------	–	–	9.1	9.1	–	–	–	–
39. Petticoat Creek	–	–	13.5	13.5	–	–	–	–
40. Rouge River	–	–	78.1	78.1	–	–	4	–
41. ------	–	–	3.4	3.4	–	–	–	–
42. Highland Creek	–	–	40.3	40.3	–	–	1	–
43. ------	–	–	.6	.6	–	–	–	–
44. Don River	–	–	111.2	111.2	–	–	4	–
45. Humber River	2.9	57.2	129.7	189.8	–	1	2	–
46. Mimico Creek	–	–	24.1	24.1	–	–	–	–
47. ------	–	–	6.0	6.0	–	–	–	–
48. Etobicoke Creek	–	–	109.2	109.2	–	–	1	–
49. ------	–	–	2.5	2.5	–	–	–	–
50. Cooksville Creek	–	–	12.1	12.1	–	–	–	–
51. ------	–	–	6.4	6.4	–	–	–	–
52. ------	–	–	1.9	1.9	–	–	–	–
53. Credit River	20.0	–	212.0	232.0	–	–	2	–
54. ------	–	–	1.6	1.6	–	–	–	–
55. ------	–	–	1.4	1.4	–	–	–	–
56. ------	–	–	1.5	1.5	–	–	–	–
57. ------	–	–	7.4	7.4	–	–	–	–
58. Oakville Creek	29.0	–	81.6	110.6	–	–	3	–
59. Bronte Creek	5.1	21.4	54.4	80.9	–	1	2	–
60. Spencer Creek	–	–	60.0	60.0	–	–	1	1
61. Twelve Mile Creek	–	–	8.0	8.0	–	–	1	–
62. Niagara River	12.8	–	–	12.8	–	–	–	1
TOTAL	153.0	116.0	1,490.0	1,759.0	0	5	51	2

NAME	PRESENT ROUTES OPEN MILES	PRESENT ROUTES PARTLY BLOCKED MILES	POTENTIAL MILES	TOTAL MILES	□	◪	■	—
LAKE ERIE TRIBUTARIES								
1. Grand River	4.5	–	317.2	321.7	–	–	1	–
2. Nanticoke River	–	–	31.6	31.6	–	–	3	–
3. Black Creek	–	–	43.7	43.7	–	–	–	–
4. Lynn River	1.0	–	41.9	42.9	–	–	1	–
5. Hay Creek	–	–	4.8	4.8	–	–	1	–
6. Young Creek	2.8	–	12.8	15.6	–	–	1	–
7. Lawrence Creek	3.6	–	.4	4.0	–	–	–	–
8. Fishers Creek	4.8	–	–	4.8	–	–	–	–
9. Potters(Normandale)Cr.	.8	–	3.6	4.4	–	–	1	–
10. Gilsons Creek	2.4	–	–	2.4	–	–	–	–
11. Forestville Creek	–	–	3.6	3.6	–	–	1	–
12. Dedrick Creek	–	–	28.9	28.9	–	–	1	–
13. Big Creek	70.4	–	48.0	118.4	1	–	5	–
14. Clear Creek	12.0	–	–	12.0	–	–	–	–
15. South Otter Creek	–	–	18.4	18.4	–	–	–	–
16. Big Otter Creek	57.4	4.4	52.5	114.3	–	1	2	–
17. Silver Creek	–	–	8.0	8.0	–	–	1	–
18. Catfish Creek	1.0	–	64.0	65.0	–	–	1	–
19. Kettle Creek	–	–	8.0	8.0	–	–	1	–
TOTAL	161	4	687	852	1	1	19	–
TOTAL SOUTHERN ONTARIO GREAT LAKES	1,350	162	3,656	5,168	6	10	131	10
MANITOULIN ISLAND STREAMS								
Srigley Bay Creek	5.4	–	–	5.4	–	–	–	–
Silver Creek	2.8	–	–	2.8	–	–	–	–
Mindemoya River	4.0	–	–	4.0	–	–	–	–
Manitou River	9.8	–	–	9.8	–	–	–	–
Bluejay Creek	10.8	–	–	10.8	–	–	–	–
TOTAL	32.8	–	–	32.8	–	–	–	–
INLAND LAKES EUGENIA LAKE TRIBUTARIES								
------	2.4	–	4.1	6.5	–	–	1	–
Beaver River	8.5	–	21.4	29.9	–	–	2	–
------	.6	–	.6	1.2	–	–	–	1
------	–	–	1.0	1.0	–	–	1	–
TOTAL	11.5	–	27.1	38.6	–	–	4	1
LAKE SIMCOE TRIBUTARIES								
------	–	–	7.5	7.5	–	–	1	–
Lovers Creek	–	–	17.2	17.2	–	–	1	–
TOTAL	–	–	24.7	24.7	–	–	2	–
SAND LAKE								
Cashman Creek	1.1	–	2.9	4.0	–	–	–	–
LAKE VERNON								
East River	20.0	–	–	20.0	–	–	–	–
LAKE ROSSEAU								
Skeleton River	4.0	–	1.0	5.0	–	–	1	–
INLAND TOTAL	69.4	–	55.7	125	–	–	7	1

MAP COLLECTION
UNIVERSITY OF ALBERTA
EDMONTON, ALBERTA
CANADA

Cartography by Surveys and Mapping Branch, Ministry of Natural Resources, 1973, from which additional copies of this map may be obtained.

DEPARTMENT OF FORESTRY AND FISHERIES
THE UNIVERSITY OF ALBERTA
EDMONTON, ALBERTA
Ontario
MINISTRY OF NATURAL RESOURCES
HON. LEO BERNIER, Minister W. Q. MACNEE, Deputy Minister
MAP SF-1

TROUT AND SALMON MIGRATORY ROUTES

SOUTHERN ONTARIO STREAMS

1973

LEGEND

- Dam with fishway
- Dam partly blocking route
- First dam blocking route
- Natural obstruction
- Electric barrier
- Open route
- Partly open route
- Potential route
- Rainbow run
- Former rainbow run
- Former atlantic salmon run
- Coho and chinook salmon run
- Kokanee run
- Brown trout run
- Splake run
- Major urban centers

SCALE: 1 Inch to 8 Miles

8 0 8 16

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TROUT AND SALMON MIGRATORY ROUTES IN NORTHERN ONTARIO STREAMS

These maps show former, present and potential migration routes of nine trout and salmon species. The information is detailed for 187 streams. Southern Ontario streams including those of Manitoulin Island are shown on Map SF-1.
The text describes trout and salmon populations which are termed "anadromous" because they spend most of their lives in lakes or seas and ascend streams to spawn. The description of the anadromous brook, lake and brown trout should not be considered typical of most populations of these normally non-anadromous species.
Stream-spawning trout and salmon generally deposit their eggs in riffles over gravel beds. In most streams spawning takes place in the mid reaches and headwaters. However, in Lake Superior tributaries it is more apt to occur in the lower reaches and around the mouths of streams. The females use their bodies to dig out nests or "redds." Eggs and milt are deposited together in the depression, and the fertilized eggs are covered with gravel.
The mapping of spawning areas is an enormous, and as yet, uncompleted task.

MIGRATORY ROUTES

To attract trout, salmon, or char, a tributary stream must send a freshet into the lake or ocean when the fish are ready to spawn. High water temperatures (16°C) generally halt a spawning run.
The amount of nursery grounds is more important than the amount of spawning grounds. Parr, the young fish, generally spend one to three years (char and some Pacific salmons excluded) in the stream before changing to silvery smolts and descending to the lake.
A stream not having a spawning run is said to have potential if it is tributary to a large lake, and has suitable spawning and nursery grounds. The presence of stream-living trout populations is a good indication of potential.
Anadromous trout and salmon use 119 Ontario streams flowing into Lake Superior, a total length of 764 miles. One-half of this total is found in eleven streams: Pic, Goulais, Kaministiquia, Garden, Barrett, Root, Little Pic, Nipigon, Pays Plat, Jackpine and Big and Little Trout. Potential routes total 503 miles.
Forty-one existing or potential routes are blocked at 40 points by 22 dams and 37 natural obstructions. North Channel anadromous populations use 39 miles or 81 per cent of the total suitable mileage.
Trout Lake Atlantic salmon use two miles of four Mile Creek.
No information is available on the extent of former or present migratory routes for Lake Nipigon populations. Sea-run brook trout have been reported from 45 Hudson and James Bay tributaries. The 186 miles of undammed routes indicated are only a fraction of the probable extent of present migratory routes.

RAINBOW TROUT

Scientific Name—*Salmo gairdneri* Richardson.
History—Rainbow trout are native to the Pacific coast of North America. Stocking of this species in the Lake Huron drainage began in 1876 in the Ausable watershed, Michigan. Lake Superior was first stocked in 1883, at Sault Ste. Marie by the Ontario Government. The United States Fish Commission began stocking Superior tributaries in 1889 and Huron tributaries in 1896. Specimens were first taken from Lake Huron in 1896.
Attempts to establish the species in Lake Huron date from a private Nottawasaga River pond stocking before 1900. The Canadian Government stocked rainbow trout from 1912 until 1922 when the Ontario Government started a planting program.
By 1920 the species was established in both lakes.
Rainbow trout populations in Lakes Huron and Superior survived the severe sea lamprey predation of the 1960s and are presently sustained by natural reproduction.
Distribution—Lake Superior has 117 Ontario tributaries with known runs of rainbow trout. Major runs (over 200 fish during the migration period) are reported for 30 streams: the Cloud, Jarvis, Lomond, Kaministiquia, Neebing, McIntyre, MacKenzie, Pearl, Wolf, Nipigon, Jackpine, Cypress, Little Gravel, Gravel, Little Pic, Pic, Pukaskwa, University, Doré, Michipicoten, Agawa, Montreal, Pancake, Carp, and Batchawana rivers and the Portage, Coldwater, Big and Little Trout, Dubbin and Stokely creeks.
In Lake Huron the North Channel has five streams: Twotree, Sucker and Jaggers Creeks and the Thessalon and Mississagi Rivers with minor runs. The St. Marys River probably has a major run.
Migration—Both spring and fall runs occur from Lake Superior.
In Stream—Young rainbow may spend from a few months to four years in the spawning stream before moving to the lake, but most leave at one or two years of age.
Sexual Maturity—Possibly in two, but normally in three years.
Weight—Lake fish average three to five pounds but 15 pounders are not uncommon. In Ontario the largest recorded rainbow taken by angling was a 29 pound two ounce fish caught in Georgian Bay on May 13, 1975.

BROWN TROUT

Scientific Name—*Salmo trutta* Linnaeus.
History—Brown trout are native to the streams of western Europe and the British Isles. The brown trout in Lake Superior may have originated from plantings by Wisconsin in the late 1800s, but the early 1950s, specimens were being taken in Thunder Bay.
The following life history applies to the lake dwelling form of brown trout.
Distribution—Substantial populations exist in Lake Superior, but only two tributaries are known to have runs. A major spawning run occurs in the Doré River and a minor one in the Magpie. Some specimens have been taken by commercial fishermen from Black Bay. At least two have been taken from Lake Nipigon.
Migration—October and November.
In Stream—Some brown trout may spend their entire life in the lake. The young of stream spawners spend two or three years in the stream before moving into the lake.
Sexual Maturity—Usually three to four years—occasionally two years.
Weight—Lake fish average six to seven pounds with some weighing up to 16 pounds.

BROOK TROUT

Scientific Name—*Salvelinus fontinalis* Mitchill.
History—Brook (speckled) trout are native to Ontario. They inhabit most cold streams and some lakes. Sea-run brook trout were known as far back as 1767 when they were mentioned by Andrew Graham (Hudson's Bay Company): "Several species of Charr frequent the rivers and creeks, weighing from two to six pounds each. They are very numerous after the ice breaks up, and in autumn when the ice returns. Few are caught in summer. Nay! I have seen them so plenty that oftentimes our Europeans have angled above a hundred at one sitting without any bait on the hook; this proceeds from their resorting to the hole cut in the river for free air..."
Distribution—Anadromous or "sea-run" brook trout are known in 45 of the Ontario creeks and rivers which flow into James and Hudson Bays. Most of these appear to be major spawning runs. There is some doubt as to whether there is still a run in the Kinoshess River.
Lake dwelling brook trout use 17 Lake Superior streams: Current, Blind, MacKenzie, Pearl, Black Sturgeon, Nipigon, Jackpine, Cypress, Little Gravel, Steel, Prairie and Little Pic rivers, and Coldwater, Stillwater, Firehill, Ozone and McInnes creeks. Streams flowing into the west side of Lake Nipigon still have brook trout runs; however, not enough details are known to provide more than an indicative mapping.
Lake Superior brook trout are locally known as "coasters."
The 1974 run in the Nipigon River was considered by local fishermen to be the largest in 20 years.
Migration—Sea-run brook trout have been observed as early as July 17 (1963) in the Sutton River (56th parallel) where August is known as "trout month." Most of the spawning runs into James Bay tributaries are in September. Runs from the Great Lakes occur from October to December.
In Stream—The young anadromous trout spend two or three years in the stream before moving out into the lake or salt water.
Sexual Maturity—Females usually spawn at the end of their third year.
Weight—Lake fish average between two and six pounds, with especially large ones being taken in the Nipigon region. Sea-Run trout are generally between one and two pounds. The world's largest brook trout was taken in June, 1915 from the Nipigon River. It weighed 14 pounds, eight ounces.

COHO AND CHINOOK SALMON

Coho and chinook salmon are discussed together because of the difficulty in distinguishing between the two on the basis of general appearance.
Scientific Names—*Oncorhynchus kisutch* Walbaum-Coho Salmon.
Oncorhynchus tshawytscha Walbaum-Chinook salmon.
History—Michigan began a program of coho and chinook stocking in 1966. In 1967 some catches of three and four pound fish were made in the Sault Ste. Marie and Wawa areas. In 1969, Ontario tested mixed plantings of coho salmon and rainbow trout in the Jackpine and Gravel rivers (Lake Superior). This experiment was halted after 1971 because of the lack of any significant coho returns. Commercial fishermen have taken a small number off Black Bay every year since 1971. A 24 pound specimen was netted at the mouth of the Dead River, October 30, 1974.
Distribution—Small occasional runs of coho have been reported from seven Lake Superior streams: Jackpine, Gravel, Steel, Michipicoten, Agawa and Speckled Trout rivers and Jones Creek.
Chinook runs have been reported from six Ontario tributaries to Lake Superior: Agawa, Michipicoten, Montreal, Magpie and Pancake rivers and Stokely Creek.
Livingstone Creek appears to have a small regular run of coho from the North Channel. Other tributaries, the St. Marys River, the Mississagi River and Jaggers Creek have occasional catches which may indicate runs.
Migration—September to November. Both coho and chinook spawn in the fall and die soon after. Spawning fish taken in the stream are not of the best eating quality.
In Stream—Young coho and chinook normally spend one year in the parent stream before moving into the lake or sea. No data is available on populations in Ontario streams.
Sexual Maturity—Three years for coho and four or five for chinook salmon.
Weight—Six to eight pound coho adults are common. Specimens up to 22 pounds have been taken in the Great Lakes. Chinook are usually larger than coho.

PINK SALMON

Scientific Name—*Oncorhynchus gorbuscha* Walbaum.
History—An accidental planting of about 21,000 pink salmon fingerlings by Ontario in the Current River, Thunder Bay, in June 1956, was the source of the apparently self-sustaining population in Lake Superior. These fish were raised from the eggs of Skeena River (British Columbia) sea-run stocks.
The first recovery of pinks occurred in 1959 in Minnesota waters and the first Ontario specimens were taken in 1961. They have spread throughout Lake Superior and into the North Channel, Lake Huron and Lake Michigan. Pink Salmon were relatively scarce in most tributaries until 1969 when runs of 1,000 and more fish were reported in some Ontario streams (notably MacKenzie River). Large numbers were caught in Michipicoten Bay in 1973. No pink salmon have been planted by Ontario since 1956.
Distribution—Runs of pinks have been observed in 22 Ontario tributaries to Lake Superior. These streams are the Pigeon, Kaministiquia, Current, MacKenzie, Wolf, Black Sturgeon, Nipigon, Jackpine, Gravel, McKellar, Hewitson, Schreiber, Steel, Prairie, Kipple, Little Pic, Anglér, Magpie, Michipicoten, Old Woman, Agawa and Speckled Trout. No 1973 run was observed in the last three rivers.
Migration—Runs occur in odd numbered years. Off-shore congregation appears to precede upstream movement. The run is in mid-September and lasts two weeks. Pink salmon die after spawning and are not of the best eating quality when taken in the stream.
In Stream—In British Columbia young pinks are residents of the stream for about three months before going to the sea. Information on the amount of time in Ontario nursery streams is lacking.
Sexual Maturity—Two years.
Weight—The pink salmon is one of the smaller Pacific salmons and the Lake Superior fish are smaller than their sea-run contemporaries. Average adults weigh one to two pounds and are 14 to 20 inches long. Some four pounders have been landed.

KOKANEE SALMON

Scientific Name—A freshwater variety of sockeye salmon—*Oncorhynchus nerka* Walbaum.
History—From 1964 to 1970 nearly nine million kokanee were planted in Lake Huron and its tributaries. Between 1966 and 1969 runs were observed in 23 tributaries of Lake Huron. The state of Minnesota planted 366,000 fry in the Lake Superior drainage between 1936-66, but all had disappeared by 1970. No kokanee have been stocked in Lakes Huron or Superior since 1970.

ARCTIC CHAR

Scientific Name—*Salvelinus alpinus* Linnaeus.
History—The arctic char is circumpolar in distribution. In Ontario, only two authenticated specimens have been reported.
The first was caught six miles up the Severn River on August 13, 1960, in a gill-net. The second was similarly taken from the Winisk River.
Distribution—There are no known kokanee runs in Lake Superior or the North Channel. There is still a residual population with some spawning in tributaries of Manitoulin Island and on the Bruce Penninsula.

ATLANTIC SALMON

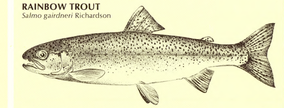
Scientific Name—*Salmo salar* Linnaeus.
History—The only known self-sustaining population in Ontario is the result of introductions starting in 1935 at Trout Lake (near North Bay).
Distribution—Trout Lake with a spawning run in Four Mile Creek.
Spawning—In October. Adults spawn more than once.
In Stream—Two to eight years.
Sexual Maturity—Five or six years (Trout Lake).
Weight—Six and one-half pound fish are not uncommon. The Trout Lake record is 19 pounds, six ounces caught April 28, 1967.

LAKE TROUT

Scientific Name—*Salvelinus namaycush* Walbaum.
History—The lake trout is native to the Great Lakes and many inland, clear, cold, deep and relatively infertile (oligotrophic) lakes. Stream spawning populations in Ontario, however, are known only for Lake Superior and formerly for Lake Nipigon. The lake trout was one of the most important commercial fish until the abrupt and serious decline of the early 1950s. That decline was caused primarily by sea lamprey predation. Remnants of stream spawning lake trout still exist and hopefully will recover their former abundance now that sea lamprey populations have been reduced.
Distribution—No stream spawning populations of lake trout are known for Lake Huron. Spawning has been recorded in the mouths of eight Lake Superior tributaries: Pic, Pukaskwa, Eagle, University (Dog), Makwa (Bear), Michipicoten, Gravel and Montreal rivers.
Tagging and recovery studies suggest that each stream was the breeding grounds of a small, separate lake trout population. Most fish were recovered within 30 miles of the spawning area at depths ranging from 40 to 180 feet.
Migration—Spawning takes place generally within a two week period (which differs for each stream) between early September and late October. The spawning population in any one stream varies from a few to two thousand fish. A very strong run was reported for the Pukaskwa River in October, 1974.
In Stream—The young lake trout apparently move to the lake soon after hatching.
Sexual Maturity—Usually seven years for males and eight for females.
Weight—Five to 10 pounds were common for Great Lakes fish. A 63 pound, two ounce specimen was taken from Lake Superior in May, 1952.

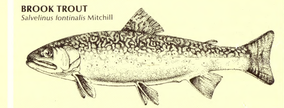
ATLANTIC SALMON
Salmo salar Linnaeus

BROWN TROUT
Salmo trutta Linnaeus

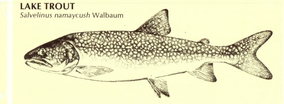

RAINBOW TROUT
Salmo gairdneri Richardson

COHO SALMON
Oncorhynchus kisutch
Spawning male

CHINOOK SALMON
Oncorhynchus tshawytscha


BROOK TROUT
Salvelinus fontinalis Mitchill

PINK SALMON
Oncorhynchus gorbuscha Walbaum
Spawning male


LAKE TROUT
Salvelinus namaycush Walbaum

Ministry of Natural Resources
Ontario
Hon. Leo Bernier, Minister
Dr. J. K. Reynolds, Deputy Minister

MAP SF-5

TROUT AND SALMON MIGRATORY ROUTES

NORTHERN ONTARIO STREAMS

1976

LEGEND

- Shoreline
- Dam partly blocking route
- First dam blocking route
- Natural obstruction
- Open route
- Potential route
- 30' contour lines (5 fathoms)
- 60' contour lines (10 fathoms)
- Rainbow run
- Brook Trout run
- Lake Trout run
- Brown Trout run
- Pink Salmon run
- Coho and Chinook Salmon run
- Atlantic Salmon run
- Major urban centre

Scale: 1 inch to 12 miles
12 0 12 24
15 KM 0 15 30KM

MAP COMPILED BY THE SURVEYS AND MAPPING BRANCH DEPARTMENT OF ENERGY, MINES AND RESOURCES CANADA

DATA ON NORTHERN ONTARIO MIGRATORY ROUTES

Names in red indicate runs of over 200 fish

NAME	PRESENT ROUTES OPEN MILES	PRESENT ROUTES PARTLY BLOCKED MILES	POTENTIAL MILES	TOTAL MILES	□	◪	■	—
LAKE SUPERIOR TRIBUTARIES								
1. Pigeon River	1.8	–	–	1.8	–	–	–	1
2. Little Pine River	1.0	–	–	1.0	–	–	–	–
3. Pine River	1.9	–	–	1.9	–	–	–	–
4. Cloud River	9.6	–	–	9.6	–	–	–	–
5. Jarvis River	3.6	–	–	3.6	–	–	–	–
6. Lomond River	2.0	–	–	2.0	–	1	–	–
7. Whiskeyjack Creek	3.9	–	–	3.9	–	–	–	–
8. Kaministiquia River	62.4	1.2	28.0	90.4	–	–	–	2
9. Neebing River	3.4	5.9	–	9.3	–	1	–	–
10. McIntyre River	4.3	21.6	–	25.9	1	–	–	–
11. McVicar Creek	6.0	–	–	6.0	–	–	–	–
12. Current River	4	–	16.4	16.8	–	–	1	–
13. Wildgoose Creek	6.2	–	–	6.2	–	–	–	–
14. Blind River	2.1	–	1.4	3.5	–	–	–	–
15. MacKenzie River	1.6	–	–	1.6	–	–	–	1
16. Blende River	2.2	–	–	2.2	–	–	–	–
17. Joeboy River	.3	–	.3	.6	–	–	–	–
18. Portage Creek	1.1	–	5.2	6.3	–	–	–	–
19. D'Arcy Creek	.9	–	–	.9	–	–	–	–
20. Pearl River	1.7	–	3.2	4.9	–	–	–	–
21. Welch Creek	1.1	–	–	1.1	–	–	–	–
22. Coldwater Creek	10.1	–	2.7	12.8	–	–	1	–
23. Wolf River	7.9	–	4.0	11.9	–	–	1	–
24. Little Squaw Creek	3.0	9.0	–	12.0	1	–	–	–
25. Black Sturgeon River	12.0	–	56.0	68.0	–	–	1	–
26. ---	–	–	4.0	4.0	–	–	–	–
27. ---	–	–	4.0	4.0	–	–	–	–
28. ---	–	–	1.0	1.0	–	–	–	–
29. ---	–	–	2.0	2.0	–	–	–	–
30. Sturgeon River	–	–	10.0	10.0	–	–	–	–
31. ---	–	–	1.5	1.5	–	–	–	–
32. ---	.5	–	–	.5	–	–	–	–
33. ---	–	–	.5	.5	–	–	–	1
34. Dawson Creek	–	–	3.0	3.0	–	–	–	–
35. ---	.3	4.0	–	4.3	1	–	–	–
36. ---	–	–	4.0	4.0	–	–	–	1
37. ---	–	–	6.0	6.0	–	–	–	–
38. ---	5.0	–	5.0	10.0	–	–	–	–
39. Big and Little Trout Creek	14.0	–	5.0	19.0	–	–	–	–
40. Stillwater Creek	1.5	–	2.0	3.5	–	–	–	1
41. Nipigon River	19.0	–	1.5	20.5	–	–	1	–
42. Cash Creek	14.0	–	12.0	26.0	–	–	–	–
43. Firehill Creek	2.5	–	–	2.5	–	–	–	–
44. Jackfish River	14.0	–	2.0	16.0	–	–	–	2
45. Ozone Creek	.3	–	–	.3	–	–	–	1
46. Jackpine River	4.5	–	–	4.5	–	–	–	1
47. Dubbin Creek	1.0	–	–	1.0	–	–	–	1

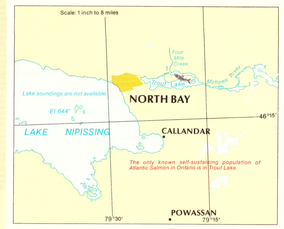
NAME	PRESENT ROUTES OPEN MILES	PRESENT ROUTES PARTLY BLOCKED MILES	POTENTIAL MILES	TOTAL MILES	□	◪	■	—
LAKE SUPERIOR TRIBUTARIES (continued)								
48. Mackness Creek	2.0	5.0	–	7.0	–	1	–	–
49. Cypress River	4.0	–	–	4.0	–	–	–	2
50. Little Cypress River	1.0	5.0	–	6.0	–	1	–	–
51. Little Gravel River	4.5	–	1.5	6.0	–	–	1	–
52. Gravel River	12.0	–	3.0	15.0	–	–	–	1
53. ---	–	–	3.5	3.5	–	–	–	–
54. ---	–	–	3.5	3.5	–	–	–	–
55. ---	–	–	3.5	3.5	–	–	–	2
56. Tedesco Creek	.5	–	–	.5	–	–	–	1
57. Brook River	1.8	–	1.0	2.8	–	–	–	1
58. ---	4.0	–	–	4.0	–	–	–	–
59. ---	.3	–	–	.3	–	–	–	1
60. Pays Plat River	16.0	–	7.6	23.6	–	–	–	–
61. McKellar Creek	.1	–	–	.1	–	–	–	1
62. Hewitson River	.1	–	–	.1	–	–	–	1
63. Schreiber Creek	1.7	–	2.2	3.9	–	–	–	1
64. Agusasbon River	1.0	–	–	1.0	–	–	–	1
65. Steel River	5.2	–	–	5.2	–	–	–	6
66. Prairie River	6.1	–	14.4	20.5	–	–	–	–
67. Ripple Creek	.5	–	.6	1.1	–	–	–	1
68. Dead Horse Creek	2.2	–	–	2.2	–	–	–	–
69. Little Pic River	19.6	–	–	19.6	–	–	–	1
70. Mink Creek	1.6	–	3.6	5.2	–	–	–	1
71. Angler Creek	3.2	–	–	3.2	–	–	–	–
72. Pic River	94.8	–	11.6	106.4	–	–	–	3
73. White River	3.0	–	–	3.0	–	–	–	1
74. White Gravel River	1.6	–	–	1.6	–	–	–	1
75. Swallow River	1.4	–	–	1.4	–	–	–	1
76. Holly Creek	1.8	–	–	1.8	–	–	–	–
77. Imogen River	4.2	–	–	4.2	–	–	–	1
78. Pukaskwa River	.3	–	4.8	5.1	–	–	1	1
79. Julia River	.5	–	–	.5	–	–	–	–
80. Pipe River	.5	–	1.4	1.9	–	–	–	1
81. Eagle River	.1	–	–	.1	–	–	–	–
82. University River	1.5	–	8.2	9.7	–	–	–	–
83. Makwa River	.1	–	–	.1	–	–	–	–
84. Lord River	.8	–	1.8	2.6	–	–	–	1
85. Magpie River	.5	–	1.6	2.1	–	–	–	1
86. Michipicoten River	11.0	–	10.0	21.0	–	–	1	–
87. Fort Creek	.3	–	–	.3	–	–	–	–
88. Old Woman River	3.3	20.5	–	23.8	–	2	–	–
89. Red Rock River	.3	.3	2.5	3.1	–	1	–	1
90. Gargantua River	.2	–	3.3	3.5	–	–	–	1
91. Buckshot Creek	.5	–	1.6	2.1	–	–	–	–
92. Baldhead River	1.1	–	6.5	7.6	–	1	–	1
93. Coldwater River	14.6	5.2	–	19.8	–	1	–	–
94. Sand River	.3	–	24.8	25.1	–	–	–	2

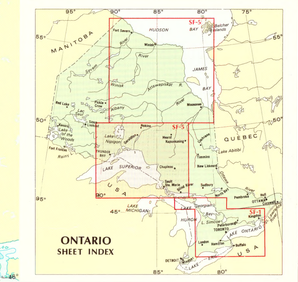
NAME	PRESENT ROUTES OPEN MILES	PRESENT ROUTES PARTLY BLOCKED MILES	POTENTIAL MILES	TOTAL MILES	□	◪	■	—
LAKE SUPERIOR TRIBUTARIES (continued)								
95. Barrett River	30.4	–	–	30.4	–	–	–	–
96. Agawa River	3.4	–	23.0	26.4	–	–	–	2
97. Frater Creek	.3	–	–	.3	–	–	–	–
98. Speckled Trout Creek	1.0	5.4	–	6.4	1	–	–	–
99. Laughing Brook	.3	.5	1.6	2.4	–	1	–	1
100. Montreal River	.3	–	12.8	13.1	–	–	–	1
101. ---	.2	–	–	.2	–	–	–	–
102. Metheany Creek	1.2	–	–	1.2	–	–	–	–
103. Alona Bay Creek	.1	–	–	.1	–	–	–	–
104. Dobson's Creek	.6	–	–	.6	–	–	–	1
105. Mica Bay Creek	.2	–	–	.2	–	–	–	–
106. Mamainse Creek	.9	–	–	.9	–	–	–	1
107. Breckenridge Creek	.1	–	–	.1	–	–	–	–
108. ---	.2	–	–	.2	–	–	–	1
109. Black Creek	.2	–	–	.2	–	–	1	–
110. Pancake River	4.5	–	21.0	25.5	–	–	–	5
111. Carp River	4.3	–	–	4.3	–	–	–	1
112. Batchawana River	8.2	–	23.4	31.6	–	–	–	6
113. Chippewa River	2.0	–	–	2.0	–	–	–	1
114. Downey Creek	.5	–	–	.5	–	–	–	–
115. Jones Creek	.2	–	–	.2	–	–	–	–
116. Sawmill Creek	.5	–	–	.5	–	–	–	1
117. Government Creek	.6	–	–	.6	–	–	–	–
118. Harmony River	1.1	1.9	–	3.0	–	1	–	1
119. Stokely Creek	4.6	–	6.2	10.8	–	–	–	1
120. Havilland Creek	1.0	–	–	1.0	–	–	–	1
121. Little Goulais River	.5	–	–	.5	–	–	–	1
122. Goulais River	68.0	–	28.4	96.4	–	–	1	10
123. Cranberry Creek	2.4	–	–	2.4	–	–	–	–
124. ---	1.3	–	–	1.3	–	–	–	–
125. ---	1.0	–	–	1.0	–	–	–	–
126. Prince Creek	2.0	–	–	2.0	–	–	–	–
127. Carp River	8.4	–	–	8.4	–	–	–	3
128. Little Carp River	4.6	–	–	4.6	–	–	–	1
129. Rouchwood Creek	.9	–	–	.9	–	–	–	–
130. Bennett Creek	2.3	1.2	–	3.5	–	1	–	1
131. Davignon Creek	6.3	–	–	6.3	–	–	–	2
132. Root River	21.4	–	2.9	24.3	–	–	–	3
133. Garden River	40.0	–	84.9	124.9	–	–	3	–
TOTAL	678.2	85.5	502.9	1,266.6	1	14	15	96
INLAND TRIBUTARIES NORTH BAY AREA								
1. Four Mile Creek	2.0	–	–	2.0	–	–	–	–

DATA ON NORTHERN ONTARIO MIGRATORY ROUTES

Names in red indicate runs of over 200 fish

NAME	PRESENT ROUTES OPEN MILES	PRESENT ROUTES PARTLY BLOCKED MILES	POTENTIAL MILES	TOTAL MILES	□	◪	■	—
NORTH CHANNEL TRIBUTARIES								
1. Twotree Creek	7.8	–	–	7.8	–	–	–	–
2. Jaggers Creek	.6	–	–	.6	–	–	–	–
3. Sucker Creek	.6	–	–	.6	–	–	–	–
4. St. Marys River	?	–	–	?	–	–	–	–
5. Thessalon River	5.2	–	–	5.2	–	–	–	–
6. Livingstone Creek	1.8	–	–	1.8	–	–	–	–
7. Mississagi River	22.6	–	–	22.6	–	–	–	1
8. Serpent River	–	–	9.0	9.0	–	–	–	–
TOTAL	38.6	–	9.0	47.6	–	–	–	–





Cartography by Surveys and Mapping Branch, Ministry of Natural Resources, 1976, from which additional copies of this map may be obtained.

FIRST EDITION

Ontario L-1 (1976)

HUDSON BAY

JAMES BAY

MANITOBA

ONTARIO

QUEBEC

Caution: Fishermen and others are reminded that travel in the Hudson Bay Lowlands without a guide is hazardous. The weather is often inclement, variations of the compass are extreme, and the chance of becoming stranded is always present.

First Ontario record of Arctic Char August 13, 1960. Netted 6 miles up Severn River. Char had 33" fork length.

Second Ontario record of Arctic Char netted in Winisk River.

Contour lines are based on very limited soundings.

Most rivers in the Hudson Bay–James Bay area probably have Sea Run Brook Trout.

Hudson and James Bays are part of the Arctic Ocean and as such are subject to tides. Tidal information may be obtained from Canadian Hydrographic Services, Ottawa, Ontario.

Contour lines are based on very limited soundings.

FORT SEVERN

WINISK

LAKE RIVER

FORT GEORGE

Cape Henrietta Maria

Pte. Louis-XIII

Belcher Islands

Ekwan Pt.

Akimiski Island

ATTAWAPISKAT

KAPISKAU

KASHECHEWAN

FORT ALBANY

MOOSONEE

MOOSE FACTORY

TIDEWATER

Shoal

Mud Flats

Big Trout Lake

Hawley Lake

Sutton Lake

Missisa Lake

Severn River

Winisk River

Ekwan River

Attawapiskat River

Albany River

Kapiskau River

Kashechewan River

Moose River

Harricanaw River

Abitibi River

Mattagami River

Kwataboahegan River

Nottaway River

Rupert River

Eastmain River

Fort George River

Kaniapiskau River

Koksoak River

Caniapiscau River

Arkaroola River

Whale River

Clearwater River

Povungnituk River

Wakeham Bay

Port Harrison

Great Whale River

Poste-de-la-Baleine

Nastapoka River

Richmond Gulf

Kuujjuarapik

Sakami Lake

Opinagau Lake

Winisk Lake

Ogoki Reservoir

Lake Nipigon

Lake Superior

Lake Michigan

Lake Huron

Lake Erie

Lake Ontario

Hudson Bay

James Bay

Toronto

Detroit

Buffalo

Ottawa

Montreal

Quebec

Thunder Bay

Sault Ste. Marie

Timmins

Kapuskasing

Cochrane

Moosonee

Moose Factory

Fort Severn

Winisk

Fort George

Attawapiskat

Kapiskau

Kashechewan

Fort Albany

Tidewater

Cape Henrietta Maria

Pte. Louis-XIII

Belcher Islands

Ekwan Pt.

Akimiski Island

TROUT AND SALMON MIGRATORY ROUTES IN NORTHERN ONTARIO STREAMS

BROOK TROUT

Scientific Name–*Salvelinus fontinalis* Mitchill.

History–Brook (speckled) trout are native to Ontario. They inhabit most cold streams and some lakes. Sea-run brook trout were known as far back as 1767 when they were mentioned by Andrew Graham (Hudson's Bay Company): "Several species of Charr frequent the rivers and creeks, weighing from two to six pounds each. They are very numerous after the ice breaks up, and in autumn when the ice returns. Few are caught in summer. Nay! I have seen them so plenty that oftentimes our Europeans have angled above a hundred at one sitting without any bait on the hook; this proceeds from their resorting to the hole cut in the river for free air;..."

Distribution–Anadromous or "sea-run" brook trout are known in 45 of the Ontario creeks and rivers which flow into James and Hudson Bays. Most of these appear to be major spawning runs. There is some doubt as to whether there is still a run in the Kinosheo River.

Lake dwelling brook trout use 17 Lake Superior streams: Current, Blind, MacKenzie, Pearl, Black Sturgeon, Nipigon, Jackpine, Cypress, Little Gravel, Steel, Prairie and Little Pic rivers, and Coldwater, Stillwater, Firehill, Ozone and McInnes creeks. Streams flowing into the west side of Lake Nipigon still have brook trout runs; however, not enough details are known to provide more than an indicative mapping.

Lake Superior brook trout are locally known as "coasters."

The 1974 run in the Nipigon River was considered by local fishermen to be the largest in 20 years.

Migration–Sea-run brook trout have been observed as early as July 17 (1963) in the Sutton River (55th parallel) where August is known as "trout month." Most of the spawning runs into James Bay tributaries are in September. Runs from the Great Lakes occur from October to December.

In Stream–The young anadromous trout spend two or three years in the stream before moving out into the lake or salt water.

Sexual Maturity–Females usually spawn at the end of their third year.

Weight–Lake fish average between two and six pounds, with especially large ones being taken in the Nipigon region. Sea-Run trout are generally between one and two pounds. The world's largest brook trout was taken in June, 1915 from the Nipigon River. It weighed 14 pounds, eight ounces.

ARCTIC CHAR

Scientific Name–*Salvelinus alpinus* Linnaeus.

History–The arctic char is circumpolar in distribution. In Ontario, only two authenticated specimens have been reported.

The first was caught six miles up the Severn River on August 13, 1960, in a gill-net. The second was similarly taken from the Winisk River

Cartography by Surveys and Mapping Branch, Ministry of Natural Resources, 1976, from which additional copies of this map may be obtained.

DATA ON NORTHERN ONTARIO MIGRATORY ROUTES

Names in red indicate runs of over 200 fish

NAME	PRESENT ROUTES OPEN MILES	PRESENT ROUTES PARTLY BLOCKED MILES	POTENTIAL MILES	TOTAL MILES	□	◪	■	—
HUDSON BAY TRIBUTARIES AND JAMES BAY								
1. Black Duck River (Ontario-Manitoba)	5.6	–	–	5.6	–	–	–	–
2. Mantagan Creek	8.4	–	–	8.4	–	–	–	–
3. Tamuna River	8.8	–	–	8.8	–	–	–	–
4. Niskibi River	10.4	–	–	10.4	–	–	–	–
5. Blacksmith River	11.9	–	–	11.9	–	–	–	–
6. Pipowtan River	14.4	–	–	14.4	–	–	–	–
7. Severn River	?	–	–	?	–	–	–	–
8. Goose Creek	13.4	–	–	13.4	–	–	–	–
9. Beavertrap Creek	11.9	–	–	11.9	–	–	–	–
10. Shell Brook	5.6	–	–	5.6	–	–	–	–
11. Shagamu River	6.1	–	–	6.1	–	–	–	–
12. Little Shagamu River	6.4	–	–	6.4	–	–	–	–
13. Wood Creek	10.0	–	–	10.0	–	–	–	–
14. Minstik Creek	?	–	–	?	–	–	–	–
15. Gooseberry Brook	?	–	–	?	–	–	–	–
16. Winisk River	?	–	–	?	–	–	–	–
17. Wachi Creek	?	–	–	?	–	–	–	–
18. Buntspoint Creek	?	–	–	?	–	–	–	–
19. Sutton River	63.6	–	–	63.6	–	–	–	–
20. Brant River	9.0	–	–	9.0	–	–	–	–
21. Black Duck River	?	–	–	?	–	–	–	–
22. LakKaski River	?	–	–	?	–	–	–	–
23. Opinnagau River	?	–	–	?	–	–	–	–
24. Patchinawapoka River	?	–	–	?	–	–	–	–
25. Nowashe Creek	?	–	–	?	–	–	–	–
26. Swan River	?	–	–	?	–	–	–	–
27. Ekwan River	?	–	–	?	–	–	–	–
28. Attawapiskat River	?	–	–	?	–	–	–	–
29. Lawashi Channel	?	–	–	?	–	–	–	–
30. Kapiskau River	?	–	–	?	–	–	–	–
31. Chickney Channel	?	–	–	?	–	–	–	–
32. Albany River	?	–	–	?	–	–	–	–
33. Kinosheo River	?	–	–	?	–	–	–	–
34. Aroweea River	?	–	–	?	–	–	–	–
35. Kabiskaubakaa River	?	–	–	?	–	–	–	–
36. Lawabokaa River	?	–	–	?	–	–	–	–
37. Little Wapiskau River	?	–	–	?	–	–	–	–
38. Wapiskau River	?	–	–	?	–	–	–	–
39. Moose River	?	–	–	?	–	–	–	–
40. Partridge River	?	–	–	?	–	–	–	–
41. Little Partridge River	?	–	–	?	–	–	–	–
42. Washokagea Creek	?	–	–	?	–	–	–	–
43. Kesagami River	?	–	–	?	–	–	–	–
44. Harricanaw River	?	–	–	?	–	–	–	–
45. Riviere Missiscabi	?	–	–	?	–	–	–	–
TOTAL	185.5	–	–	185.5	–	–	–	–

NORTHERN ONTARIO STREAMS

1976

MAP SF-5

LEGEND

- Shoreline
- Open route
- Sea-run Brook Trout
- 30' contour lines (5 fathoms)
- 60' contour lines (30 fathoms)
- ? Maximum extent of migration not known

Scale: 1 inch to 16 miles

16 0 16 32

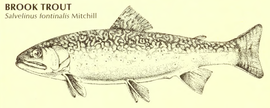
20KM 0 20 40 60KM

ONTARIO SHEET INDEX

SF-5

SF-1

BROOK TROUT
Salvelinus fontinalis Mitchill



ARCTIC CHAR
Salvelinus alpinus Linnaeus